PROPOSED

COVERED SOURCE PERMIT MINOR MODIFICATION APPLICATION REVIEW
Application Number 0214-05

APPLICANT: Kalaeloa Partners, L.P.
Kalaeloa Cogeneration Facility
Covered Source Permit (CSP) Number 0214-01-C

RESPONSIBLE OFFICIAL/POC: Mr. Hans R. Tobler (Ruedi)
General Manager
682-5288

LOCATION: 99-111 Kalaeloa Boulevard
Kapolei, HI 96707

MAILING ADDRESS: Same as above

SIC CODE: 4911 (Electrical Power Generation)

PROPOSED PROJECT:
The subject application, a minor modification to a covered source, seeks to permit the upgrade of two (2) gas turbines. The upgrade involves the replacing of the internal blades of each gas turbine with a more aerodynamic design. Replacing the blades will increase the turbine power output, increase turbine efficiency, with no increase in fuel consumption or emissions. With the upgrade, the power output of each gas turbine will increase from 74.6 Megawatts (MW) per unit to 86 MW/unit. The proposed project is considered a minor modification for the following reasons:

1. There will be no increase in annual emissions resulting from the modification. Information provided by the applicant demonstrates that unit's fuel consumption and emission rates will not change. Therefore, annual emissions can increase only if the utilization of the unit is increased. However, the unit in question is typically operated as base load unit, and thus utilization cannot be increased.

2. The predicted stack exit temperature (335°F) after completion of the upgrade will be higher than the stack exit temperature (320°F) used to demonstrate compliance with ambient air quality standards.

PROPOSED MODIFICATION:
The modification to the existing covered source permit consists of upgrading the equipment list to document the revised operating parameters for the turbines. The revisions are as follows:

REVISED EQUIPMENT LIST:

Stack No.	Equipment Description	Fuel Used
1	CT1, Combustion Turbine with evaporative cooling module, max production rated at ~~74.6 MW~~ **(86 MW)** at 76°F, Manufactured by ABB, type GT 11N **(with GT 11 NM upgrade)**	LSFO normal fuel, diesel for start-up
1	Heat Recovery Steam Generator, Manufactured by Deltak	No fuel, uses exhaust heat from CT1
2	CT2, Combustion Turbine with evaporative cooling module, max production rated at ~~74.6 MW~~ **(86 MW)** at 76°F, Manufactured by ABB, type GT 11N **(with GT 11 NM upgrade)**	LSFO normal fuel, diesel for start-up
2	Heat Recovery Steam Generator, Manufactured by Deltak	No fuel, uses exhaust heat from CT2
N/A	Steam Turbine Generator, 51.5 MW, Manufactured by ABB	No fuel, uses steam from heat recovery steam generators
N/A	Cooling Tower, 4-cell, mechanical forced draft, maximum design cooling capacity is 383 million BTUs per hour. The maximum water flow per cell is 523,530 gallons per hour.	

AIR POLLUTION CONTROL AND MONITORING DEVICES:
The facility is not adding any air pollution control or monitoring devices as a result of this modification.

APPLICABLE REQUIREMENTS:

Hawaii Administrative Rules (HAR)
- Chapter 11-59, Ambient Air Quality Standards
- Chapter 11-60.1, Air Pollution Control
  - Subchapter 1, General Requirements
  - Subchapter 2, General Prohibitions
    - 11-60.1-31 Applicability
    - 11-60.1-32 Visible Emissions
    - 11-60.1-33 Fugitive Dust
    - 11-60.1-38 Sulfur Oxides from fuel combustion

Subchapter 5, Covered Sources
Subchapter 6, Fees for Covered Sources, Noncovered Sources, & Agricultural Burning
11-60.1-111 Definitions
11-60.1-112 General fee provisions for covered sources
11-60.1-113 Application fees for covered sources
11-60.1-114 Annual fees for covered sources
Subchapter 7, Prevention of Significant Deterioration Review
Subchapter 10, Field Citations

NSPS:
The modification does not trigger any additional requirements. The facility is currently subject to the following New Source Performance Standards (NSPS):

40 CFR Part 60 Subpart A, General Requirements
40 CFR Part 60 Subpart GG, Standards of Performance for Stationary Gas Turbines

CONSOLIDATED EMISSIONS REPORTING RULE (CERR):
The facility is subject to the consolidated emissions reporting rule. The modification does not affect this determination.

CDS:
The facility is currently classified and will continue to be a CDS source

PSD:
The facility is already classified as a PSD source. The proposed upgrade is intended to improve the efficiency of the turbines and will result in lower emissions per unit of output and no emissions increase. Although the upgrade is considered a non-routine physical change, the change is not expected to increase the turbines' utilization or emissions. The facility in question is an independent power producer, and is typically already operated at a high utilization rate. Therefore, it has been determined that the proposed modification will not increase emissions, and a PSD review is not required.

BEST AVAILABLE CONTROL TECHNOLOGY (BACT):
The facility is not subject to BACT for the permit modification because there will be no emissions increase as a result of this modification.

INSIGNIFICANT ACTIVITIES/EXCEPTIONS:
Insignificant activities have not been modified since the issuance of the initial title V permit and include the following:

Stack No.	Equipment Description	Fuel Used
N/A	T4, 13,000 gallon fuel additive tank	
N/A	T5, 500 gallon fire pump diesel fuel tank	
N/A	121 hp diesel engine for emergency fire pump	Diesel

Although there have been no changes in the insignificant activities at the facility, the modification will also incorporate special conditions for insignificant activities located at the facility (Att II-insig) pursuant to CAB policy.

ALTERNATIVE OPERATING SCENARIOS:
No additional alternative operating scenarios have been proposed in the permit modification application.

PROJECT EMISSIONS:
The proposed modification will not increase the emission rate of any pollutant, and the utilization of the units in question will not increase as a result of the turbine modification. Therefore, emissions will not increase, and facility emissions remain unchanged.

AMBIENT AIR QUALITY ASSESSMENT:
An ambient air quality assessment was not required for the permit modification because there was no increase in short term (g/s) or long term (tpy) emission rates from previously modeled levels. In addition, the predicted stack exit temperature (335°F) after completion of the upgrade will be higher than the stack exit temperature (320°F) used to demonstrate compliance with ambient air standards, and thus greater pollutant dispersion will occur. Therefore, and ambient air quality analysis is not required for the proposed modification.

OTHER ISSUES: None

SIGNIFICANT PERMIT CONDITIONS: None

CONCLUSION AND RECOMMENDATION:
The facility complies with all State and Federal standards with regards to air pollution. Recommend approval of permit modification pending EPA 45-day review.

Kevin Kihara
January 15, 2004